

CLAIMS

1. An oral treatment device, comprising:

a thin, flexible barrier layer in the shape of a dental tray; and

an oral treatment composition comprising an active agent and a tissue adhesion agent having a consistency in a range from a sticky, viscous gel to a solid composition,

said oral treatment composition acting as an endoskeleton so as to at least partially contribute to maintaining said barrier layer in the shape of a dental tray prior to use.

said oral treatment composition being sticky and adhesive during use so as to cause said barrier layer to at least partially conform to a person's tooth surfaces during use.

2. An oral treatment device as defined in claim 1, said barrier layer being so flexible as to be incapable of maintaining the shape of a dental tray in the absence of said oral treatment composition prior to use.

3. An oral treatment device as defined in claim 2, said oral treatment composition preventing a front sidewall and a bottom wall from collapsing together and/or spreading apart prior to use.

4. An oral treatment device as defined in claim 1, said barrier layer having a thickness in a range of about 0.0001 inch to about 0.012 inch.

5. An oral treatment device as defined in claim 1, said barrier layer having a thickness in a range of about 0.001 inch to about 0.01 inch.

6. An oral treatment device as defined in claim 1, wherein said oral treatment composition comprises a bead.

7. An oral treatment device as defined in claim 6, wherein said bead has a cross-sectional diameter in range of about 1 mm to about 5 mm.

8. An oral treatment device as defined in claim 6, wherein said bead has a cross-sectional diameter in a range of about 2 mm to about 4 mm.

9. An oral treatment device as defined in claim 1, wherein said oral treatment composition comprises a continuous layer on an inner surface of the barrier layer.

10. An oral treatment device as defined in claim 9, wherein said continuous layer has a thickness in a range of about 0.25 mm to about 2 mm.

11. An oral treatment device as defined in claim 9, wherein said continuous layer has a thickness in a range of about 0.5 mm to about 1 mm.

12. An oral treatment device as defined in claim 1, wherein said oral treatment composition is a sticky and viscous composition having a glue-like consistency.

13. An oral treatment device as defined in claim 1, wherein said oral treatment composition is a stiff putty that is substantially solid but malleable and that becomes stickier and more adhesive to a person's teeth and/or gums when moistened with saliva or water.

14. An oral treatment device as defined in claim 1, wherein said barrier layer includes a front sidewall and a bottom sidewall that are contiguous so as to form a trough into which said oral treatment composition is placed prior to use.

15. An oral treatment device as defined in claim 1, wherein said barrier layer includes a front sidewall and a noncontiguous bottom wall that includes cuts or discontinuities so as to form a plurality of bottom flaps that are more easily conformable to inner surfaces of adjacent teeth having varying widths.

16. An oral treatment device as defined in claim 1, said barrier layer comprising at least one of wax, metal foil, paraffin, ethylene-vinyl acetate copolymer, ethylene-vinyl alcohol copolymer, polycaprolactone, polyolefin, polyethylene, high density polyethylene, low density polyethylene, ultra-low density polyethylene, polypropylene, polytetrafluoroethylene, polyester, polycarbonate, polyurethane, polyamide, or polyesteramide.

17. An oral treatment device as defined in claim 1, further comprising a removable exoskeleton that helps maintain said barrier layer in the shape of a dental tray prior to use.

18. An oral treatment device as defined in claim 1, said barrier layer designed so as to approximately terminate at or near a person's gingival margin during use.

19. An oral treatment device as defined in claim 1, said barrier layer designed so as to overlap a person's gingival margin during use.

20. An oral treatment device as defined in claim 1, said tissue adhesion agent comprising at least one of polyvinyl pyrrolidone (PVP), carboxypolymethylene, polyethylene oxide, polyacrylic acid, copolymer of polyacrylic acid, polyacrylate, polyacrylamide, copolymer of polyacrylic acid and polyacrylamide, PVP-vinyl acetate copolymer, carboxymethylcellulose, carboxypropylcellulose, polysaccharide gum, or protein.

21. An oral treatment device as defined in claim 1, said treatment composition comprising at least one active agent selected from the group comprising dental bleaching agents, dental desensitizing agents, anesthetics, gingival soothing agents, stabilizing agents, remineralizing agent, antimicrobial agents, antiplaque agents, anti-tartar agents, mouth freshening agents, and anti-oxidants.

22. An oral treatment device as defined in claim 1, further comprising an auxiliary adhesive composition.

23. A kit for use in treating a person's teeth and/or gums comprising a plurality of said oral treatment devices according to claim 1.

24. A method for treating a person's teeth and/or gums comprising obtaining an oral treatment device according to claim 1 and placing it over at least a portion of the person's teeth and/or gums for a desired time period.

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